

Amendments to the Specification:

Please delete the heading "DESCRIPTION" on page 1, line 1.

Please add the following heading after the title of the invention on page 1, line 2:

Background of the Invention

Please replace the paragraph beginning on page 1, line 7 through line 8, which starts with "The present invention" with the following rewritten paragraph:

The present invention relates to a dynamo-electric machine of an axial gap or a radial gap type.

Please replace the paragraphs beginning on page 1, line 10 through page 3 line 1, which start with "A radial gap electric motor" with the following rewritten paragraphs:

A radial gap electric motor as a radial gap dynamo-electric machine used for a drive source in ~~an electric~~ a motorcycle or for other general electric motors has such a construction that a yoke of a rotor (rotor yoke) and a yoke of a stator (stator yoke) having a revolving shaft supported by bearings are opposed to each other, and the opposed surfaces ~~are~~ extend in parallel with the revolving shaft. The opposed surface of the rotor yoke is provided with a magnet for a magnetic field in a cylindrical shape, and the opposed surface on the side of the stator is provided with a plurality of teeth arranged in a radial shape so as to oppose the cylindrical surface, and each tooth being wound by a coil. In other words, in the radial gap electric motor, the opposing surfaces of the magnet and the teeth ~~are~~ extend in parallel with the revolving shaft, and the gap between the opposed surfaces are formed into a cylindrical shape along the revolving shaft.

On the other hand, in recent years, an axial gap dynamo-electric machine as well as the above-described radial gap dynamo-electric machine ~~in the related art~~ attracts the public eye.

For example, in an axial gap electric motor such as axial gap dynamo-electric machine, a rotor yoke having a revolving shaft supported by the bearing thereof and a stator yoke, which is a laminated body formed by laminating, for example, disk-shaped steel plates ~~in the direction of the center axis~~ along the revolving shaft of the motor, opposed with respect to each other, and the opposing surfaces thereof are orthogonal to the revolving shaft.

On the opposing surface of the rotor yoke, a magnet for a magnetic field is disposed, for example, in a circular shape (or in a ring shape), and on the opposing surface on the stator yoke, there are disposed a plurality of teeth along the radial direction ~~with respect to the revolving shaft~~ (in the directions of the radii) to the revolving shaft. The opposing surfaces of the magnet and the teeth are orthogonal to the revolving shaft, and the gap between the opposing surfaces is formed into a plane perpendicular to the revolving shaft.

In other words, in an axial gap electric motor, a magnetic circuit is formed between the rotor and the stator, and the rotor is rotated using an attraction force and a repulsion force of the rotor-side magnet with respect to excitation of the respective teeth by sequentially switching excitation of the respective teeth corresponding to the N-pole and the S-pole of the rotor-side magnet via coils wound around the respective teeth of the stator.

Please replace the paragraph beginning on page 3, line 6 through line 9, which starts with "In this case" with the following rewritten paragraph:

In this case, part of the magnetic flux flowing from the teeth to the stator yoke, which is leaked from the side surfaces of the teeth toward the stator yoke, proceeds perpendicularly to the rotor-opposed surface of the stator yoke.

Please replace the heading on page 3, line 23, with the following rewritten heading:

~~Disclosure~~ Summary of the Invention

Please replace the paragraphs beginning on page 3, line 24 through page 9, line 4, which start with "In view of such circumstances" with the following rewritten paragraphs:

In view of such circumstances, an ~~object~~ advantage of the present invention is to restrain generation of eddy current caused by the leaked magnetic flux, and to reduce iron loss due to the eddy current.

~~A first embodiment of the present invention to achieve the above-described object is a dynamo-electric machine including a tooth opposing the magnet at a predetermined gap, a coil having at least part of the tooth disposed therein, and a yoke disposed so as to oppose the magnet, wherein the tooth is mounted to the yoke in such a manner that at least part thereof is~~

~~inserted through the magnet opposed surface of the yoke, and the cross-sectional area of the tooth at the portion being inserted into the yoke, which is taken perpendicularly with respect to a line of magnetic force generated at the tooth when the coil is energized is larger than the cross-sectional area of the portion of the teeth disposed inside the coil, which is taken perpendicularly with respect to the line of magnetic force.~~

~~In the first embodiment of the present invention, the tooth is formed by laminating a plurality of steel plates each having the portion to be inserted into the yoke and the portion to be disposed within the coil molded integrally with each other, and the width of the each steel plate at the portion to be inserted into the yoke when viewed in the direction of lamination is larger than the portion to be disposed within the coil when viewed in the direction of lamination.~~

~~In the first embodiment of the present invention, a plurality of teeth are provided, and the plurality of teeth are mounted to the yoke in such a manner that the lines of magnetic force generated at the portions of the plurality of teeth to be disposed within the coils when the coils are energized are substantially parallel with each other.~~

~~In the first embodiment of the present invention, the cross-sectional area of the magnet opposed end portion of the tooth opposing the magnet, which is taken perpendicularly with respect to the line of magnetic force generated at the tooth when the coil is energized, is smaller than the cross-sectional area of the portion to be disposed within the coil, which is taken perpendicularly with respect to the line of magnetic force generated at the portion to be disposed within the coil.~~

~~In the first embodiment of the present invention, the plurality of coils are provided, and the plurality of teeth are disposed inside the plurality of coils at least partly, and the plurality of coils are integrally molded in such a manner that the lines of magnetic force generated at the portions of the plurality of teeth disposed within the respective coils are parallel with each other when the plurality of coils are energized.~~

~~In the first embodiment of the present invention, the magnet opposed end portions of the plurality of teeth facing the magnet are located outside the plurality of coils, a plurality of cores are disposed in the vicinity of the magnet opposed end portions of the plurality of teeth opposing the magnet, and the plurality of cores and the plurality of coils are integrally molded.~~

~~A second embodiment of the present invention for achieving the above described object is a dynamo electric machine having a magnet for a magnetic field, including a tooth opposing the magnet at a predetermined gap, and a coil having at least part of the tooth disposed therein, wherein the cross sectional area of the magnet-opposed end portion of the tooth opposing the magnet, which is taken perpendicularly with respect to the line of magnetic force generated at the tooth when the coil is energized, is smaller than the cross sectional area of the portion to be disposed within the coil, which is taken perpendicularly with respect to a line of magnetic force generated at the portion to be disposed within the coil.~~

~~In the second embodiment of the present invention, the plurality of teeth and cores are provided respectively, and the plurality of teeth are disposed at least partly within the plurality of coils, respectively, and a yoke having the plurality of teeth mounted thereon in such a manner that the lines of magnetic force generated at the portions of the plurality of teeth provided within the coils when the plurality of coils are energized are substantially parallel with each other is provided, and the plurality of coils are integrally molded in a state in which the lines of magnetic force generated at the portions of the plurality of teeth provided within the coils are substantially parallel with each other.~~

~~In the second embodiment of the present invention, the magnet-opposed end portions of the plurality of teeth opposing the magnet are located outside the plurality of coils, a plurality of cores are disposed in the vicinity of the magnet-opposed end portions of the plurality of teeth opposing the magnet, and the plurality of cores and the plurality of coils are integrally molded.~~

~~In the second embodiment of the present invention, the plurality of teeth are mounted to the yoke in a state in which at least parts thereof are inserted into the yoke through the magnet-opposed surface of the yoke, and the cross sectional areas of the respective teeth at the portion being inserted into the stator yoke, which are taken perpendicularly with respect to the lines of magnetic force generated at the respective teeth when the respective coils are energized, are larger than the cross sectional area of the portions of the respective teeth disposed inside the respective coils, which is taken perpendicularly with respect to the lines of magnetic force.~~

~~As described thus far, in the dynamo electric machine according to the first embodiment of the present invention, since the cross sectional areas of the teeth at the portions being inserted into the yoke, which are taken perpendicularly with respect to the lines of magnetic force~~

~~generated at the teeth when the coils are energized, are larger than the cross-sectional area of the teeth at the portions to be disposed within the coils, which is taken perpendicularly with respect to the lines of magnetic force, the lines of magnetic force (magnetic flux) leaked from the portions disposed within the coils proceed to the portions of the teeth inserted into the yoke.~~

~~As a consequence, in comparison with the case in which the leaked magnetic flux is proceeded directly to the yoke, generation of an eddy current caused by the leaked magnetic flux may be restrained by insulation resistances at the portions of the teeth being inserted into the yoke.~~

~~Therefore, iron loss due to an eddy current may be reduced, and thus the efficiency of the dynamo-electric machine may be improved.~~

~~According to the dynamo-electric machine according to the second embodiment, since the cross-sectional area of the magnet-opposed end portions of the teeth opposing to the magnet, which is taken perpendicularly with respect to the lines of magnetic force generated at the teeth when the coils are energized is smaller than the cross-sectional area of the portion to be disposed within the coils, which is taken perpendicularly with respect to the lines of magnetic force generated at the portions to be disposed within the coils, the teeth and insertion holes may easily be aligned, for example, when inserting the teeth into the insertion holes on the yoke, whereby assembling process of the dynamo-electric machine employing the teeth may be simplified.~~

In order to achieve the above-described advantage, a dynamo-electric machine including a magnet for a magnetic field according to a first aspect of the present invention includes a tooth disposed so as to oppose the magnet at a predetermined gap being laminated in parallel with the direction of magnetic flux of the magnet, a coil having at least part of the tooth disposed therein, and a yoke disposed so as to oppose the magnet and being laminated in the direction different from the direction of the layer of the tooth. The yoke further includes an opening provided so as to face from the surface opposing the magnet toward the opposite surface. The tooth and the yoke are fixed to each other in a state in which at least part of the tooth is inserted into the opening, and the cross-sectional area perpendicular to a line of magnetic force at the portion inserted into the opening is larger than the cross-sectional area perpendicular to the line of magnetic force at a portion of the tooth stored in the coil when the coil is energized.

According to the dynamo-electric machine in the first aspect of the present invention, since the cross-sectional area perpendicular to a line of magnetic force generated at the teeth inserted into the opening of the yoke is larger than the cross-sectional area perpendicular to the line of magnetic force at a portion of the tooth stored in the coil when the coil is energized, the line of magnetic force (magnetic flux) leaks from the portion stored in the coil enters into the tooth inserted into the yoke.

Consequently, generation of eddy current caused by the leaked magnetic flux can be restrained owing to the insulation resistance of the tooth inserted into the opening of the yoke in comparison with the case in which the leaked magnetic flux directly enters into the yoke.

Therefore, the iron loss based on the eddy current can be reduced, whereby efficiency of the dynamo-electric machine can be improved.

Please replace the paragraph beginning on page 9, line 11 through line 13, which starts with "Fig. 2 is a cross sectional view" with the following rewritten paragraph:

Fig. 2 is a cross sectional view (partly in side view) taken along the line II-II in Fig. 1 for explaining the inside of the rear end section ~~n~~ of a rear arm shown in Fig. 1.

Please replace the paragraphs beginning on page 9, line 20 through page 11, line 8, which start with "Fig. 5A is a perspective view" with the following rewritten paragraphs:

Fig. 5A is a perspective view showing a general construction of a tooth and a portion of a stator yoke where the tooth is mounted according to the first embodiment. Fig. 5B is a drawing showing the teeth in Fig. 5A when viewed in the direction of lamination.

Fig. 6A is a drawing showing a cross-sectional area of the tooth shown in ~~Fig. 5~~ Figs. 5A and 5B at the portion being inserted into the yoke, which is taken perpendicularly with respect to a line of magnetic force generated when the coil is energized. Fig. 6B is a drawing showing a cross-sectional area of a portion of the tooth shown in ~~Fig. 5~~ Figs. 5A and 5B disposed within the coil, which is taken perpendicularly with respect to the line of magnetic force.

Fig. 7A is a perspective view of a general construction of a tooth having a width of the portion to be inserted into the yoke along the shorter side thereof when viewed in the direction of lamination ~~is a width lower than a corresponding to~~ with of the portion to be disposed within the

coil, and the portion of the tooth mounted to the stator yoke. Fig. 7B is a drawing of the teeth in Fig. 7A when viewed in the direction of lamination.

Fig. 8A is a perspective view showing a general construction of a tooth and a portion of the stator yoke where the tooth is mounted according to a second embodiment of the present invention. Fig. 8B is a drawing of the tooth in Fig. 8A when viewed in the direction of lamination.

Fig. 9A is a perspective view showing a general construction of a tooth and a portion of the stator yoke where the tooth is mounted according to a third embodiment of the present invention. Fig. 9B is a drawing of the tooth in Fig. 9A when viewed in the direction of lamination.

Fig. 10A is an exploded perspective view showing an assembling process of a stator including the tooth (only the portion including the single tooth) shown in ~~Fig. 9~~ Figs. 9A and 9B. Fig. 10B is an exploded perspective view showing an assembling process of a stator including the tooth shown in ~~Fig. 7~~ Figs. 7A and 7B (only the portion including the single tooth).

Please replace the heading on page 11, line 18, with the following rewritten heading:

~~Best Mode for Carrying Out~~ Detailed Description of the Invention

Please replace the paragraphs beginning on page 11, line 23 through page 12 line 9, which start with "Fig. 1 is a side view" with the following rewritten paragraphs:

Fig. 1 is a side view of ~~an electric~~ a motorcycle 1 as an example of an apparatus on which an axial gap dynamo-electric machine according to a first embodiment of the present invention is mounted.

As shown in Fig. 1, the ~~electric~~ motorcycle 1 includes a head pipe 2 at the upper front of a vehicle body, and the head pipe rotatably accommodates a steering shaft, not shown, for changing the direction of the vehicle body therein. A handle supporting member 3 on which a handle 3a is fixed is mounted at the upper end of the steering shaft, and grips 4 are mounted to both ends of the handle 3a. The right (far side of Fig. 1) grip 4, not shown, constitutes a rotatable throttle grip.

Please replace the paragraphs beginning on page 12, line 20 through page 13, line 6, which start with "A pair of left and right vehicle" with the following rewritten paragraphs:

A pair of left and right vehicle body frames 11 each formed into a substantially L-shape in a side view extend from the head pipe 2 rearwardly of the vehicle body. The vehicle body frames 11 are round pipes, and extend from the head pipe 2 rearward and obliquely downward from the head pipe 2, and then horizontally toward the rear so as to be formed substantially into the L-shape in a side view.

From the rear end sections of the pair of vehicle body frames 11, a pair of left and right seat rails 12 extend rearward and obliquely upward, and then the rear end sections 12a of the seat rails 12 are bent rearward along the shape of a seat 13.

Please replace the paragraph beginning on page 13, line 23 through page 14, line 6, which starts with "On the other hand" with the following rewritten paragraph:

On the other hand, rear arm brackets 19 (only one of them is shown in Fig. 1) are welded to the horizontal portions of the pair of left and right vehicle body frames 11 below the seat 13, respectively, and the front ends of rear arms 20 are pivotably supported by the pair of left and right rear arm brackets 19 via a pivot shaft 21. A rear wheel 22, which is a driving wheel, is rotatably supported by a rear end section 20a of the rear arm 20, and the rear arm 20 and the rear wheel 22 are suspended by a rear cushion 23 in a damping manner.

Please replace the paragraphs beginning on page 14, line 14 through page 15, line 1, which start with "A drive unit 29" with the following rewritten paragraphs:

A drive unit 29 including an axial gap electric motor 28 (hereinafter, may be referred simply as electric motor 28) connected to the rear wheel 22 for rotating; the rear wheel 22 is mounted in the rear end section 20a of the rear arm 20.

Fig. 2 is a cross-sectional view (partly in a side view) taken along the line II-II in Fig. 1 for explaining the inside of the rear end section 20a of the rear arm 20. The rear wheel 22 is not shown.

As shown in Fig. 2, a gear cover 35 covers the right side surface of the rear end section 20a of the rear arm 20, and the electric motor 28 that constitutes the drive unit 29, a planet gear speed reducer 36, a controller 37, and so on are integrally assembled within a space formed therein.

Please replace the paragraph beginning on page 16, line 22 through line 18, which starts with “The planet gear speed reducer 36” with the following rewritten paragraph:

The planet gear speed reducer 36 is connected to a rear axle 47 disposed coaxially with the revolving shaft 46, and has a function to reduce the speed of rotation (rotation of the revolving shaft 46) of the electric motor 28 and to transmit it to the rear axle 47. A nut 50 is detachably screwed on ~~the~~ an extremity 47a of the rear axle 47 projecting from the gear cover 35, and the rear wheel 22 is mounted and fixed to the rear axle 47 by screwing the nut 50 thereon ~~in the state that~~ with the rear wheel 22 is fitted on the rear axle 47.

Please replace the paragraphs beginning on page 18, line 14 through page 19, line 6, which start with “The stator 41 includes” with the following rewritten paragraphs:

The stator 41 includes a coil 62 (See Fig. 2) ~~round~~ wound around each tooth 61, the stator yoke 60, a molded portion 63 formed by integrally molding each tooth 61 and the coil 62, and a plurality of flanges 64 formed on the outer peripheral surface of the molded portion 63 for mounting the molded portion 63 including the teeth 61 and the coils 62 to the rear end section 20a of the rear arm 20. The flange 64 is fixed to the rear end section 20a of the rear arm by screwing a bolt 65.

A controller 37 and an inverter 70 ~~which is electrically~~ connected to the controller 37 and electrically connected to the respective coils 62 for switching ~~a current~~ and allowing ~~the~~ a current to flow through the coils 62 (U-phase coil, V-phase coil, and W-phase coil) ~~based on~~ under control of the controller 37 are disposed; at the portion on which the teeth 61 are missing (removed portion) TW on the stator yoke 60. Reference numeral 71 designates an encoder substrate for detecting the rotational position of the rotor 40, and reference numerals 71a, 71b, 71c designate holes IC corresponding to the respective phases.

Please replace the paragraphs beginning on page 19, line 13 through page 20, line 18, which start with "As shown in Fig. 4" with the following rewritten paragraphs:

As shown in Fig. 4, the stator yoke 60 is formed with square insertion holes 75 for inserting (fitting) and fixing the teeth 61 substantially in the shape of a partly removed circle (substantially C-shape) at the predetermined circumferential pitches, and ~~an~~ inner surfaces 75a, 75b on a pair of shorter sides of the inserting holes 75 face the center axis BO (orthogonal to the radial direction of the stator yoke 60).

In addition, the inner surface 75b on the side of ~~the~~ an outer peripheral surface 60a of the stator yoke 60 out of the inner surfaces 75a, 75b on the shorter sides of the insertion hole 75 is formed with a radially extending slit 76 that is formed by cutting the steel plate portion between the inner surface 75b and the outer peripheral surface 60a for communicating the insertion hole 75 with the outside of the stator yoke 60.

On the other hand, each of the teeth 61 is constructed by laminating a plurality of steel plates 80 in substantially I-shape as shown in Fig. 4 and Figs. ~~5(a)~~ 5A and ~~(b)~~ 5B.

In other words, each of the steel plates 80 includes one end portion 80a having a predetermined width $W3$ along the shorter side of the steel plate 80, and a predetermined length along the longitudinal direction of the steel plate 80, a midsection 80b extending from the one end portion 80a along the longitudinal direction by a predetermined length and having a width $W2$ which is narrower (shorter) than the width of the one end portion 80a along the shorter side, and the other end portion 80c extending from the end on the opposite side of the midsection 80b relative to the one end portion 80a along the longitudinal direction, and having a predetermined width $W1$ along the shorter side.

Please replace the paragraph beginning on page 20, line 23 through page 21, line 5, which starts with "The portion formed by" with the following rewritten paragraph:

The portion formed by laminating the other end portions 80c of the plurality of steel plates 80 which constitute the tooth 61 has a substantially square cross section along the direction of lamination, and is inserted (for example, press-fitted) into the insertion hole 75 of the stator yoke 60 in the direction in which the direction of lamination matches the radial direction

and fixed thereto. The portion formed by laminating the other end portion 80c of the tooth 61 constitutes a portion 81 to be inserted into the yoke.

Please replace the paragraph beginning on page 21, line 20 through page 22, line 4, which starts with "In other words" with the following rewritten paragraph:

In other words, in this arrangement, as shown in Figs. ~~6(a)~~ 6A and ~~(b)~~ 6B, a cross-sectional area (the area of the square cross section) S1 of the portion 81 of the tooth 61 to be inserted into the yoke, which is taken perpendicularly with respect to the lines of magnetic force (the direction of a magnetic flux B1) generated when the coil 62 is energized, is larger than the cross-sectional area (the area of the square cross section) S2 of the portion 82 to be disposed within the coil with respect to the lines of the magnetic force (the direction of magnetic flux B1).

Please replace the paragraphs beginning on page 22, line 23 through page 23, line 18, which start with "In this case" with the following rewritten paragraphs:

In this case, because of the geometric configuration of the tooth 61 or increase of magnetic resistance at the portion to be inserted into the yoke, a leaked magnetic flux B2 generates from both of the side surfaces 82a, when viewed in the direction of lamination (See ~~an~~ the arrow AR1) of the portion 82 of the tooth 61 disposed within the coil toward the stator yoke 60, in addition to the magnetic flux B1.

In this point, for example, as shown in Fig. ~~7(a)~~ 7A and ~~(b)~~ Fig. 7B, the width W1A along the shorter side of the portion 181 of ~~the~~ teeth 180 to be inserted into the yoke along the shorter side thereof when viewed in the direction of lamination is shorter than the width W2A corresponding to the portion 182 to be disposed within the coil, the leaked magnetic flux B2 proceeds perpendicularly to the rotor-opposed surface of a stator yoke 160.

In this case, since the steel plates of the stator yoke 160 are laminated along the direction of the revolving shaft, an induction current IC generated in whirl with respect to the component of the magnetic flux ~~proceeded~~ that proceeds perpendicularly to the stator yoke 160 is not blocked in the stator yoke 160, and thus a large magnitude of induction current leaks.

Please replace the paragraph beginning on page 24, line 8 through line 15, which starts with "In this case" with the following rewritten paragraph:

In this case, since the direction of lamination of the tooth 61 including the portion 81 to be inserted into the yoke is a direction orthogonal to the magnetic flux B2, the induction current generated in whirl with respect to the component of the magnetic flux B2 tends to flow in the direction of lamination of the portion 81 to be inserted into the yoke (the direction from the backside to the front side, and the front side to the backside of the plane of Fig. 5(b) 5B).

Please replace the paragraph beginning on page 24, line 19 through line 24, which starts with "When the coil 62" with the following rewritten paragraph:

When the coil 62 of a predetermined tooth 61 is energized in a state in which generation of the induction current caused by the leaked magnetic flux B2 is restrained as described above, the predetermined tooth 61 is energized via the coil 62, and attraction and repulsion occurs between the energized predetermined tooth 61 and the magnet 45.

Please replace the paragraphs beginning on page 26, line 1 through line 11, which start with "In addition" with the following rewritten paragraphs:

In addition, on the inner surface 93b on the side of the outer peripheral surface 91a of the stator yoke 92 out of the longitudinal inner surfaces 93a, 93b of each of the insertion hole holes 93, ~~the inserting holes 93~~ is formed with a radially extending slit, (not shown), that is formed by cutting the steel plate portion between the inner surface 93b and the outer peripheral surface 92a of the yoke for communicating the insertion hole 93 with the outside of the stator yoke 92.

On the other hand, each of the teeth 91 is constructed by laminating a plurality of steel plates 95 in substantially an I-shape as shown in Fig. 8A and Fig. 8B.

Please replace the paragraph beginning on page 27, line 2 through line 10, which starts with "In the present" with the following rewritten paragraph:

In the present ~~invention~~ embodiment, the portion formed by laminating the other end portions 95c of the plurality of steel plates 95 which constitute the tooth 91 has a substantially square cross section along the direction of lamination, and is inserted and fixed into the insertion

hole 93 of the stator yoke 92 in the direction in which the direction of lamination ~~matches~~ is orthogonal to the radial direction. The portion formed by laminating the other end portion 95c of the tooth 91 constitutes a portion 96 to be inserted into the yoke.

Please replace the paragraphs beginning on page 27, line 17 through page 28, line 14, which start with "The portion formed" with the following rewritten paragraphs:

The portion formed by laminating the one end portion 95a of the plurality of steel plates 95 constituting the tooth 91, corresponding to the portion including a square shaped opposed surface opposing the magnet 45 at a predetermined gap, is disposed outside the coil 62 and constitutes the magnet-opposed end portion 98 of the tooth 91.

In this arrangement as well, as in the first embodiment, the cross-sectional area S4 of the portion 96 of the tooth 91 to be inserted into the yoke, which is taken perpendicularly with respect to the lines of magnetic force (the direction of the magnetic flux B3) generated when the coil 62 is energized, is larger than the cross-sectional area S5 of ~~the~~ a portion 97 to be disposed within the coil, which is taken perpendicularly with respect to the lines of the magnetic force (the direction of magnetic flux B3).

In this arrangement as well, as in the first embodiment, the plurality of teeth 91 are mounted to the stator yoke 92 in a state in which the lines of magnetic force (the direction of magnetic flux B3) generated at the portions 97 to be disposed within the coils of the plurality of teeth 91 ~~extend~~ are substantially ~~in~~ parallel with each other when the coils 62 corresponding to the respective teeth 91 are energized, and integrally fixed by the molded portion 63.

Please replace the paragraphs beginning on page 28, line 19 through page 29, line 22, which start with "In this embodiment" with the following rewritten paragraphs:

In this embodiment as well, as in the first embodiment, a leaked magnetic flux B4 is ~~generated~~ generates from both of side surfaces 97a, when viewed in the direction of lamination (See a the direction indicated by ~~an~~ the arrow AR1), of the portion 97 of the tooth 91 disposed within the coil toward the stator yoke 92, in addition to the magnetic flux B3 generated at the portion 97 to be disposed in within the coil.

In this case, according to the present embodiment, since the cross-sectional area S4 (the width W4 along the shorter side when viewed in the direction of lamination) of the portion 96 to be inserted into the yoke, which is taken perpendicularly with respect to the magnetic flux B3 is larger (longer) than the cross-sectional area S5 (the width W5 along the shorter side when viewed in the direction of lamination) of the portion 97 to be disposed within the coil, which is taken perpendicularly with respect to the magnetic flux B3, the magnetic flux B4 leaked from the both side surfaces 97a of the portion 97 of the tooth 91 to be disposed in the coil when viewed in the direction of lamination proceeds perpendicularly to the portion 96 to be inserted into the yoke having the width W4, but not to the stator yoke 92.

In this case, since the direction of lamination of the tooth 91 including the portion 96 to be inserted into the yoke is a direction orthogonal to the magnetic flux B4, the induction current generated in whirl with respect to the component of the magnetic flux B4 tends to flow in the direction of lamination of the portion 96 to be inserted into the yoke (the direction from the backside to the front side, and the front side to the backside of the plane of Fig. 8(b) 8B).

Please replace the paragraphs beginning on page 30, line 8 through page 31, line 5, which start with "Fig. 9A is a" with the following rewritten paragraphs:

Fig. 9A is a perspective view showing a general construction of a tooth and the portion of a stator yoke where the tooth is mounted according to a third embodiment of the present invention, and Fig. 9B is a drawing of the tooth in Fig. 9A when viewed in the direction of the lamination.

Since the components other than teeth 101 are substantially the same as in the first embodiment, the description will be omitted or made only briefly.

In the present embodiment, as shown in Fig. 9A and Fig. 9B, each of the teeth 101 is constructed by laminating a plurality of steel plates 102 of substantially a T-shape.

Each of the steel plates 102 includes one end portion 102a having a predetermined width W7 along the shorter side of the steel plate 102 and a predetermined length along the

longitudinal side of the steel plate 102, a midsection 102b extending from the one end portion 102a along the longitudinal direction by a predetermined length and having a width W7 which is the same as the width of the one end portion 95a along the shorter side, and the other end portion 102c extending from the end on the opposite side of the midsection 102b relative to the one end portion 102a by a predetermined length along the longitudinal direction, and having a predetermined width W8 which is longer than the width W7 along the shorter side.

Please replace the paragraphs beginning on page 31, line 9 through page 32, line 5, which start with "In the present" with the following rewritten paragraphs:

In the present ~~invention~~ embodiment, the portion formed by laminating the other end portions 102c of the plurality of steel plates 102 constituting the tooth 101 has a substantially square cross section along the direction of lamination, and is inserted and fixed into the insertion hole 75 of the stator yoke 60 in the direction in which the direction of lamination matches the radial direction. The portion formed by laminating the other end portion 101c of the tooth 101 constitutes the portion 106 to be inserted into the yoke.

The portion formed by laminating the midsections 102b of the plurality of steel plate 102 constituting the tooth 101, corresponding to the portion to be disposed within the coil 62, has a substantially square cross section along the direction of lamination and constitutes ~~the~~ a portion 107 to be disposed within the coil.

In addition, the portion formed by laminating the one end portions 102a of the plurality of steel plates 102 constituting the tooth 101, corresponding to the portion including a square shaped opposed surface opposing the magnet 45 at a predetermined gap, is disposed outside the coil 62 and constitutes ~~the~~ a magnet-opposed end portion 108 of the tooth 101.

Please replace the paragraph beginning on page 32, line 22 through line 24, which starts with "Fig. 10A is" with the following rewritten paragraph:

Fig. 10A is an exploded perspective view showing an assembling process of ~~a~~ the stator 41 including the tooth 101 (only the portion including the single tooth).

Please replace the paragraphs beginning on page 34, line 1 through page 35, line 4, which start with "As in the first embodiment" with the following rewritten paragraphs:

As in the first embodiment, in addition to the magnetic flux B5 generated at the portions 107 to be disposed within the coils, a leaked magnetic flux B6 is generated toward the stator yoke 60 from both of the side surfaces 107a, when viewed in the direction of lamination (See a the direction indicated by ~~an~~ the arrow AR1), of the portion 107 of the tooth 101 disposed within the coil.

In this case, according to the present embodiment, since the cross-sectional area S8 (the width W8 along the shorter side when viewed in the direction of lamination) of the portion 106 to be inserted into the yoke, which is taken perpendicularly with respect to the magnetic flux B5, is larger (longer) than the cross-sectional area S7 (the width W7 along the shorter side when viewed in the direction of lamination) of the portion 107 to be disposed within the coil, which is taken perpendicularly with respect to the magnetic flux B5, the magnetic flux B6 that leaked from ~~the~~ both side surfaces 107a of the portion 107 of the tooth 101 to be disposed in the coil when viewed in the direction of lamination proceeds perpendicularly to the portion 106 to be inserted into the yoke having the width W8, but not to the stator yoke 60.

In this case, since the direction of lamination of the tooth 101 including the portion 106 to be inserted into the yoke is the direction orthogonal to the magnetic flux B6, the induction current generated in whirl with respect to the component of the magnetic flux B6 tends to flow in the direction of lamination of the portion 106 to be inserted into the yoke (the direction from the backside to the front side, and the front side to the backside of the plane of Fig. 9**(b)** 9B).

Please replace the paragraph beginning on page 35, line 19 through page 36, line 5, which starts with "In this point" with the following rewritten paragraph:

In this point, as shown in Fig. 7A and Fig. 7B, when the width W3A along the shorter side of ~~the~~ a magnet-opposed end portion 183 of a tooth 180 when viewed in the direction of lamination is longer than the corresponding width W2A of ~~the~~ a portion 182 to be disposed in the coil, as shown in Fig. 10B, the tooth 180 is inserted into a bobbin 190 on which a coil 191 is wound around the outer periphery thereof via a bobbin flange 192, and then the bobbin 190 in which the tooth 180 is inserted is mounted to the stator yoke 60 in such a manner that the portion 181 of the tooth 180 to be inserted into the yoke is inserted (press-fitted) into the insertion hole 175 on the stator yoke 160.

Please replace the paragraphs beginning on page 37, line 4 through line 21, which start with “In the present embodiment” with the following rewritten paragraphs:

In the present embodiment, the area S7 and the width W7 of the magnet-opposed end portion 108 disposed outside the coil 62 of the respective teeth 101 are the same as the area S7 and the width W7 of the portion 107 to be disposed in the coil, respectively. However, the present invention is not limited thereto, and the area S7 and the width W7 of the magnet-opposed end portion 108 disposed outside the coil 62 of the respective teeth 101 may be smaller than the area and the width of the portion 107 to be disposed within the coil.

Furthermore, according to the present ~~invention~~ embodiment, the coils 62 are wound around the respective teeth 101. However, in order to simplify the connecting work as shown in Fig. 11, the coils 62 corresponding to all the teeth 101 are connected and joined in advance, and a molded integral coil 121 ~~which~~ is fixed with the resin mold so as to form teeth mounting holes 120 arranged in the shape of a partly removed circle corresponding to the shape of the general arrangement of the teeth 101 (the shape of a partly-removed circle).

Please replace the paragraph beginning on page 38, line 2 through line 6, which starts with “As a consequent” with the following rewritten paragraph:

As a consequent, assembling of the coils may easily be achieved without performing difficult works such as coil connecting work or alignment among the plurality of teeth, whereby the assembling process of the stator 41 may further be simplified.

Please replace the paragraph beginning on page 38, line 14 through line 22, which starts with “According to the” with the following rewritten paragraph:

According to the arrangement shown in Fig. 13, when the molded integral coil 121a is mounted to the stator yoke 60 so that the portions 107 of the teeth 101 to be disposed within the coils may be inserted into the teeth mounting holes 120, the cores 122 serve also as magnet-opposed surfaces together with the magnet-opposed end portions 108 of the respective teeth 101. Therefore, in comparison with the construction shown in ~~Fig. 9~~ Figs. 9A and 9B, more magnetic fluxes (lines of magnetic force) generated from the magnet 45 may be induced.

Please replace the paragraph beginning on page 39, line 1 through line 10, which starts with "In the above-described embodiments" with the following rewritten paragraph:

In the above-described embodiments, the width of the portion of the tooth to be inserted into the yoke is longer than the width of the portion to be disposed within the coil. However, the present invention is not limited thereto, and any shape of the tooth may be applied as long as the cross-sectional area of the portion to be inserted into the yoke, which is taken perpendicularly to the lines of magnetic force generated when the corresponding coil is energized, is larger than the cross-sectional area perpendicular to the lines of magnetic force of the portion to be disposed within the coil.

Please replace the paragraphs beginning on page 40, line 4 through page 41, line 7, which start with "In addition, the case" with the following rewritten paragraphs:

In addition, the case in which the axial gap dynamo-electric motor (electric motor) as an axial gap dynamo-electric machine according to the present invention has been described in the embodiments described above, the present invention is not limited thereto, and it is also used as a so-called electric generator, which allows a coil to generate electromotive force by rotating the rotor from the outside.

In the above-described embodiments, the axial gap dynamo-electric machine ~~according to the present invention~~, has been described to have the rotor as a magnet side, and the stator as a coil side. However, the present invention is not limited thereto, and may have the stator as a magnet side and the rotor as a coil side, which achieves substantially the same effects as the embodiments described above.

In the above-described embodiments, the axial gap dynamo-electric machine (electric motor) has been described as the dynamo-electric machine according to the present invention. However, the present invention is not limited thereto, and it may also be applicable to a radial gap dynamo-electric machine, that is a radial gap dynamo-electric machine in which the opposed surfaces of the magnet and the plurality of teeth ~~are~~ extend in parallel with the revolving shaft,

the gap between these opposed surfaces ~~are~~ is formed into a cylindrical shape along the revolving shaft, and the lines of magnetic force generated at the plurality of teeth extend radially.

The present invention is not limited to the above-described ~~first to the seventh~~ embodiments, and may be embodied in other modes by modifying as needed within the scope of the present invention.

Please replace the heading “[Claims]” on page 27, line 1 with the following rewritten heading:
Claim or {Claims}